Rocky Flats Environmental Technology Site

PRE-DEMOLITION SURVEY REPORT (PDSR)

Building 371

Phase III

Area AP

Column Lines 1 – 12
&
Column Lines T – Y

Building 373 and Cooling Tower 911

REVISION 0

April 4, 2005

PRE-DEMOLITION SURVEY REPORT (PDSR)

Building 371

Phase III

Column Lines 1 – 12

&

Column Lines T – Y

REVISION 0

April 4, 2005

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ABBREVIATIONS/ACRONYMS

ACM	Asbestos Containing Material
Be	Beryllium
CDPHE	Colorado Department of Public Health and the Environment
$DCGL_{EMC}$	Derived Concentration Guideline Level – elevated measurement comparison
$DCGL_W$	Derived Concentration Guideline Level – Wilcoxon Rank Sum Test
D&D	Decontamination and Decommissioning
DDCP	Decontamination and Decommissioning Characterization Protocol
DOE	U.S. Department of Energy
DPP	Decommissioning Program Plan
DQA	Data Quality Assessment
DQOs	Data Quality Objectives
EPA	U.S. Environmental Protection Agency
FDPM	Facility Disposition Program Manual
HVAC	Heating, Ventilation, Air Conditioning
HSAR	Historical Site Assessment Report
HEUN	Highly Enriched Uranyl Nitrate
IHSS	Individual Hazardous Substance Site
IWCP	Integrated Work Control Package
K-H	Kaiser-Hill
LBGR	Lower Bound of the Gray Region
LBP	Lead-based paint
LLW	Low-level waste
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MDA	Minimum Detectable Activity
MDC	Minimum Detectable Concentration
NORM	Naturally Occurring Radioactive Material
NRA	Non-Rad-Added Verification
OSHA	Occupational Safety and Health Administration
PARCC	Precision, Accuracy, Representativeness, Comparability and Completeness
PCBs	Polychlorinated Biphenyls
PDS	Pre-Demolition Survey
PDSR	Pre-Demolition Survey Report
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RFCA	Rocky Flats Cleanup Agreement
RFETS	Rocky Flats Environmental Technology Site
RFFO	Rocky Flats Field Office
RLC	Reconnaissance Level Characterization
RLCR	Reconnaissance Level Characterization Report
RSA	Removable Surface Activity
RSOP	RFCA Standard Operating Protocol
RSP	Radiological Safety Practices
SVOCs	Semi-Volatile Organic Compounds
TCLP	Toxicity Characteristic Leaching Procedure
TSA	Total Surface Activity
VOCs	Volatile Organic Compounds
WSRIC	Waste Stream and Residue Identification and Characterization

EXECUTIVE SUMMARY

A Pre-Demolition Survey was performed to enable compliant disposition and waste management of Building 371, Phase III areas for structural surfaces that exist within six feet of the final grade. Phase III areas covered in the scope of this report are Building 371 Area AP (all interior surfaces located between column lines 1 through 12 and column lines T through Y). The exterior surfaces of B371 were covered in a separate Pre-Demolition Report dated March 9, 2005.

Because this area will be demolished, the characterization was performed in accordance with the Pre-Demolition Survey Plan (MAN-127-PDSP). The PDS encompassed both chemical and radiological characterization. The characterization was built upon physical, chemical and radiological hazards identified in the facility-specific *Reconnaissance Level Characterization Report for the 371/374 Building Cluster*, dated August 28, 2000, Revision 0.

Based upon the results of this Pre-Demolition Survey Report (PDSR), affected areas meet the unrestricted release limits specified in the site Pre-Demolition Survey Plan. This structure can be demolished and the waste managed as PCB Bulk Product waste or as sanitary waste, and the concrete can be used for backfill on-site per the RFCA RSOP for Recycling Concrete.

All remaining metal and equipment have received radiological surveys in accordance with RSP 7.02, *Contamination Monitoring Requirements,* and may be disposed of as sanitary waste. All indicated surveys are maintained in the applicable survey unit packages.

No removable contamination in excess of the unrestricted release limits (20 dpm/100 cm^2) exists in Building 371, Phase III areas, and no beryllium contamination has been detected above the investigation level in these areas.

To ensure that the facility remains free of contamination and PDS data remain valid, Level 1 isolation controls are established.

1 INTRODUCTION

A Pre-Demolition Survey was performed to enable compliant disposition and waste management of Building 371, Phase III areas for structural surfaces that exist within six feet of the final grade. Phase III areas include Building 371, Area AP (all interior surfaces located between column lines 1 through 12 and column lines T through Y). The exterior surfaces of B371 were covered in a separate Pre-Demolition Report dated March 9, 2005. Because this Type 3 building will be demolished, the characterization was performed in accordance with the Pre-Demolition Survey Plan (MAN-127-PDSP). The results of this survey demonstrate that the structural concrete to be used for fill material meets the unrestricted release limits specified in the site Pre-Demolition Survey Plan.

As part of the Rocky Flats Environmental Technology Site (RFETS) Closure Project, numerous facilities will be removed. Among these is Building 371, Phase III. This portion of the B371 structure no longer supports the RFETS mission and will be removed to reduce Site infrastructure, risks and/or operating costs.

Before this Type 3 facility can be demolished, the Data Quality Objectives (DQOs) for a Pre-Demolition Survey (PDS) must be satisfied; this document presents the PDS results for the indicated interior and exterior surfaces. The PDS was conducted pursuant to the Decontamination and Decommissioning Characterization Protocol (MAN-077-DDCP) and the Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP). The PDS is built upon physical, chemical and radiological hazards identified in the facility-specific *Reconnaissance Level Characterization Report for the 371/374 Building Cluster*, dated August 28, 2000, Revision 0.

1.1 PURPOSE

The purpose of this report is to communicate and document the results of Building 371, Phase III areas. A PDS is performed prior to building demolition to define the pre-demolition radiological and chemical conditions of a facility. The pre-demolition conditions are compared with the release limits for radiological and non-radiological contaminants. PDS results will enable project personnel to make final disposition decisions, develop related worker health and safety controls, and estimate waste volumes by waste types.

1.2 SCOPE

This report presents the pre-demolition radiological and chemical conditions of the all surfaces that will be free-released and used as backfill per the requirements of the *RFETS, RFCA RSOP for Recycling Concrete.*

1.3 DATA QUALITY OBJECTIVES

The Data Quality Objectives (DQOs) used in designing this PDS meet the minimum requirements specified in Section 2.0 of the Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP). Refer to section 2.0 of MAN-127-PDSP for these DQOs.

1.3.1 The Problem

The problem involves determining whether or not the survey unit is suitable for unrestricted release in accordance with this plan.

1.3.2 The Decision

The decision is verification that objectives specified in the decommissioning decision document have been met (e.g., certain materials meet unrestricted release criteria for radiological and non-radiological constituents).

1.3.3 *Inputs to the Decision*

Inputs to the decision include the magnitude and location of data from preceding characterizations, including RLC and In-Process Characterization (IPC), PDS results, decision document action levels, and unrestricted release criteria.

1.3.4 Decision Boundaries

The decision boundaries are the spatial confines of the facility, including rooms and sets of rooms, in two and three dimensions. Interior surfaces are included, including those below grade. Boundaries may be further defined in RFCA decision documents.

1.3.5 Decision Rules

The following are decision rules to be used during PDS:

1.3.5.1 Radionuclides

If all radiological survey and scan measurements are below the surface contamination guidelines specified in the Site PDSP, then the related areas and/or volume are considered not radiologically contaminated.

If any radiological survey or scan measurement exceeds the surface contamination guidelines provided in the Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP), the related survey unit must be evaluated per the statistical tests described in Section 7.0, Data Analysis and Quality Assessment, of the PDSP.

1.3.5.2 Hazardous Waste

If decommissioning waste is mixed with or contains a listed hazardous waste, or if the waste exhibits a characteristic of a hazardous waste, then the waste is considered RCRA-regulated hazardous waste in accordance with 6 CCR 1007-3, Parts 261 and 268.

1.3.5.3 Hazardous Substances

If material contains a listed hazardous substance above a decision document action level (e.g., RFCA) and/or the CERCLA reportable quantity (40 CFR 302.4), the material is subject to CERCLA regulation (i.e., remediation and/or notification requirements).

1.3.5.4 Beryllium

If surface concentrations of beryllium are equal to or greater than 0.2 $\mu g/100\ cm^2$, the material is considered beryllium contaminated per 10 CFR 850.

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1.3.5.5 PCBs

If material contains PCBs, in a non-liquid state, from the manufacturing process at concentrations ≥50 ppm, the material is considered PCB Bulk Product Waste and subject to the requirements of 40 CFR 761.

If PCB contamination from a past spill/release is suspected, or if a PCB spill is discovered that has not been cleaned up, the associated material is considered PCB Remediation Waste and subject to the requirements of 40 CFR 761. PCB remediation waste includes: materials disposed of prior to April 18, 1978, that are currently at concentrations ≥50 ppm PCBs, regardless of the concentration of the original spill; materials which are currently at any volume or concentration where the original source was ≥500 ppm PCBs beginning on April 18, 1978, or ≥50 ppm PCBs beginning on July 2, 1979; and materials which are currently at any concentration if the PCBs are spilled or released from a source not authorized for use under 40 CFR 761.

If a waste or item contains PCBs in regulated concentrations, the waste or item is classified as PCB-regulated material and subject to the requirements of 40 CFR 761.

1.3.5.6 Asbestos

If any one sample of a sample set representing a homogeneous medium results in a positive detection (i.e., >1% by volume), then material is considered ACM (40 CFR 763 and 5 CCR 1001-10).

1.3.6 Tolerable Limits on Decision Error

Acceptable false negative *(a)* errors for calculating the number of samples generally range from 1% to 10%. The default value specified by the Site PDSP is 5%, which was assumed for the survey design in this report.

1.3.7 Optimization of Plan Design

Statistically based radiological surveying and sampling will be conducted per the guidance in Appendix B of the RFETS Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP). Refer to Section 4.0 of the PDSP for direction of characterization of non-radiological, chemical constituents. For this report, the minimum number of measurement locations is fifteen per survey unit, as calculated based on the guidance in MAN-127-PDSP. Survey units will be typically sized in accordance with Section 3.1.1 of the PDSP (e.g., up to 100 m^2, floor surface area, for Class 1 survey units, 100 m^2 to 1,000 m^2, floor surface area, for Class 2 survey units, and up to 1,000 m^2, floor surface area, for Class 3 survey units). These size restrictions will typically be used as guidelines. If additional measurements are collected, larger floor surface areas may be used. For example, if an area is classified as a Class 3 and has 2000 m^2 of floor surface area, then the number of measurements would be multiplied by 2 to account for the increased surface area. The $DCGL_W$ is 100 dpm/100 cm^2 for TSA and media measurements/samples, and 20 dpm/100 cm^2 for RSA measurements. The Lower Bound of the Gray Region (LBGR) was adjusted to obtain a relative shift of two (per the PDSP). The estimated standard deviation for each measurement type was calculated based on an assumed coefficient of variation of 30%.

The scan requirements for specific survey unit classifications are as follows:

Class 1: Not Applicable
Class 2: Not Applicable
Class 3: 1-10% of all surfaces

2 HISTORICAL SITE ASSESSMENT

A facility-specific Hazards Characterization Report was conducted to understand the facility history and related hazards. The Building 371 hazards characterization was conducted in August of 2000 (*Reconnaissance Level Characterization Report for the 371/374 Building Cluster*, dated August 28, 2000, Revision 0). Based on the characterization results, radiological contamination is suspect, although unlikely, on the interior structural surfaces of the Building 371, Phase III areas. Due to process history and characterization data of Phase III areas, no media sampling was required. All media present in these areas was allowed to remain in place and no remediation was required.

The area included in the scope of this PDSR is referred to herein as Building 371, Phase III. The areas between column lines 1 – 12 and column lines T – Y were part of the original building 371 construction. This area was utilized as an administrative support area for Building 371 with offices located on the ground floor level, as well as the men's and women's locker rooms and cafeteria.

A detailed description of these areas is provided in the *Reconnaissance Level Characterization Report for the 371/374 Building Cluster*, dated August 28, 2000, Revision 0. In addition, a detailed description of processes and equipment utilized in these areas is provided in the Historical Review provided in Attachment G.

The hazard characterization results and historical review (refer to Attachment G) were used to identify PDS data gaps and needs, and to develop radiological and chemical PDS characterization packages. Characterization documentation is located in the Building 371 Characterization Project files.

3 RADIOLOGICAL CHARACTERIZATION AND HAZARDS

All surfaces included in the scope of this PDSR were characterized for radiological hazards per the PDSP. Radiological characterization was performed to define the nature and extent of radioactive materials that may be present on the facility surfaces. Measurements were performed to evaluate the contaminants of concern (weapons-grade plutonium isotopes). Based upon a review of the characterization data, historical and process knowledge, in-process survey data, building walk-downs, and the Site Pre-Demolition Survey Plan (MAN-127-PDSP), a Radiological Characterization Plan was developed during the planning phase that describes the minimum survey requirements (refer to survey unit packages indicated in this section). A survey unit overview map is presented in Attachment A. Based on hazard characterization data and historical and process knowledge, transuranic isotopes are the primary contaminants of concern in Buildings 371/374. Therefore, the PDS was performed to the transuranic PDS unrestricted release criteria. Individual radiological survey unit packages are maintained in the Building 371 Characterization Project files.

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Areas covered in the scope of this PDSR consists of three Class 3 survey units (371075, 371088, & 371089), based on the contamination potential, per Section 3.0 of the PDSP.

All associated survey unit packages were developed in accordance with Radiological Safety Practices (RSP) 16.01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation and Closure*. Total surface activity (TSA) and removable surface activity (RSA) measurements were collected in accordance with RSP 16.02 *Radiological Surveys of Surfaces and Structures*. Radiological survey data were verified, validated and evaluated in accordance with RSP 16.04, *Radiological Survey/Sample Data Analysis*. Quality control measures were implemented relative to the survey process in accordance with RSP 16.05, *Radiological Survey/Sample Quality Control*.

Media sampling was not conducted in these Class 3 survey units due to process history and characterization survey results in Phase III areas.

Random survey locations that landed on inaccessible areas were relocated as close to the original location as possible within the contiguous square-meter. When this was not possible, a new random location was selected from a random-number generator.

Radiological survey data, statistical analysis results, survey locations, and radiological scan maps are presented in Attachments B, C, & D, *Radiological Data Summary and Survey Maps*.

Table 1 below provides the breakdown of survey units for this PDSR relative to building surfaces covered in the scope of this report. This table covers the survey unit number, classification, survey unit description, and justification for classification for each survey unit.

Table 1
Building 371 (Phase III) Survey Unit Breakdown

Survey Unit	Class	Survey Unit Description / Justification for Classification
371075	3	West End Administrative and Locker Room Area / Area not expected to contain levels of residual radioactivity, or expected to contain residual radioactivity at a small fraction of the $DCGL_W$.
371088	3	East End Administrative and Cafeteria Area / Area not expected to contain levels of residual radioactivity, or expected to contain residual radioactivity at a small fraction of the $DCGL_W$.
371089	3	B373 Pump House & Cooling Tower 911 / Area not expected to contain levels of residual radioactivity, or expected to contain residual radioactivity at a small fraction of the $DCGL_W$.

West End Administration Areas (Column Lines 1 – 6) – Survey Unit 371075

The interior surfaces of the west end administrative areas between column lines 1 – 6 are classified as a Class 3 survey unit. A total of 15 random TSA and RSA measurements were collected on interior surfaces. Surface scans of 425 m^2 (14% of accessible surfaces) were performed. No media samples were collected for this Class 3 survey unit (per the PDSP, no media samples are required in Class 3 survey units due to process history).

All scans and surveys in survey unit 371075 were less than the applicable PDS transuranic DCGL values. Radiological survey data, statistical analysis results, survey locations, and radiological scan maps for survey unit 371075 are presented in Attachment B, *Survey Unit 371075, Radiological Data Summary and Survey Map.*

East End Administration Areas (Column Lines 6 – 12) – Survey Unit 371088

The interior surfaces of the east end administrative areas between column lines 1 – 6 are classified as a Class 3 survey unit. A total of 21 random TSA and RSA measurements were collected on interior surfaces. Surface scans of 458 m^2 (9% of accessible surfaces) were performed. No media samples were collected for this Class 3 survey unit (per the PDSP, no media samples are required in Class 3 survey units due to process history).

All scans and surveys in survey unit 371088 were less than the applicable PDS transuranic DCGL values. Radiological survey data, statistical analysis results, survey locations, and radiological scan maps for survey unit 371088 are presented in Attachment C, *Survey Unit 371088, Radiological Data Summary and Survey Map.*

B373 & Cooling Tower 911 – Survey Unit 371089

B373 and Cooling Tower 911 are classified as a Class 3 survey unit. A total of 15 random TSA and RSA measurements were collected on building surfaces. Surface scans of 90 m^2 (7% of accessible surfaces) were performed. No media samples were collected for this Class 3 survey unit (per the PDSP, no media samples are required in Class 3 survey units due to process history).

All scans and surveys in survey unit 371089 were less than the applicable PDS transuranic DCGL values. Radiological survey data, statistical analysis results, survey locations, and radiological scan maps for survey unit 371089 are presented in Attachment D, *Survey Unit 371089, Radiological Data Summary and Survey Map.*

4 CHEMICAL CHARACTERIZATION AND HAZARDS

Based on a thorough review of historical and process knowledge, visual inspections, and personnel interviews, no additional chemical hazard sampling requirements were identified.

4.1 Asbestos

Asbestos containing building material is not present in or on areas covered in the scope of this report (previously removed), with the exception of a ACM in the tar impregnated roofing felt located on the roof of B371. This ACM will be removed from the rubble during demolition and disposed of as sanitary waste.

4.2 Beryllium (Be)

Areas covered in the scope of this report are not and have never been a beryllium-controlled area. None of these areas were included on the RFETS Historical Beryllium List. Per the Beryllium Sampling Decision Tree in the PDSP, the number of different locations and the square footage of the areas, 10 Be swipes were collected at biased

locations on floor and elevated horizontal surfaces. Samples were collected in accordance with the PDSP and the *Beryllium Characterization Procedure,* PRO-536-BCPR, Revision 0, September 9, 1999.

All beryllium smear sample results were less than the investigative limit of 0.1 $\mu g/100cm^2$. PDS beryllium laboratory sample data and location maps are contained in Attachment E, *Chemical Data Summaries and Sample Maps*.

4.3 RCRA/CERCLA Constituents [including Metals and Volatile Organic Compounds (VOCs)]

Based upon the *Reconnaissance Level Characterization Report for the 371/374 Building Cluster*, dated August 28, 2000, Revision 0, personnel interviews, facility walk-downs, and historical process knowledge (WSRIC/WEMS), no areas in Phase III of Building 371 previously managed hazardous wastes. The concrete generated from the demolition of the areas included in the scope of this report can be used for onsite recycling in accordance with the Concrete Recycling RSOP.

All RCRA regulated items have been removed (in accordance with the B371 DOP).

4.4 Polychlorinated Biphenyls (PCBs)

Based on historical knowledge, personnel interviews, and 371/374 Environmental Compliance Personnel walk-downs, Building 371 never used/transferred free flowing/exposed PCB's. At one time the facility may have used PCB ballasts in its fluorescent light fixtures, however, all of these have been removed, and compliantly disposed of, resulting in no impact on demolition activities in this area.

5 PHYSICAL HAZARDS

Physical hazards associated with Building 371, Phase III areas are common to standard industrial environments. Several large floor penetrations exist that have been covered and/or barricaded (following survey) to avoid fall hazards. In addition, auxiliary lighting is required for access to the area.

Physical hazards are controlled by the Site Occupational Safety and Industrial Hygiene Program, which is based on OSHA regulations, DOE orders, and standard industry practices.

6 DATA QUALITY ASSESSMENT

Data used in making management decisions for decommissioning of areas included in the scope of this report, and consequent waste management, is of adequate quality to support the decisions documented in this report. The data presented in this report (Attachments B, C, D, & E) were verified and validated relative to MAN-127-PDSP, Pre-Demolition Survey Plan for D&D Facilities, and original project DQOs.

In summary, the Verification and Validation (V&V) process corroborates that the following elements of the characterization process are adequate:

- the *number* of samples and surveys
- the *types* of samples and surveys
- the sampling/survey process as implemented "in the field"
- the laboratory analytical process, relative to accuracy and precision considerations.

Details of the DQA are presented in Attachment F. The DQA Checklists are provided in the individual survey unit packages (located in the Building 371 Characterization Files).

The Minimum Detectable Activity (MDA) for each PDS instrument was determined *a priori* based on typical parameters (background, efficiency, and count time). A list of radiological field instrumentation and associated sensitivities is presented in Table 2.

Table 2

PDS Radiological Field Instrumentation and Minimum Detectable Activities

Model	Measurement Type	MDA (dpm/100 cm^2)
NE Electra DP6	TSA	48
Eberline SAC-4	Removable (Smears)	10
NE Electra AP6	Scans	300
Bartlett FSM	Scans	225

7 DECOMMISSIONING WASTE TYPES

The demolition and disposal of Building 371, Phase III areas will generate a variety of wastes. The remaining concrete can be used as backfill onsite in accordance with the RFCA RSOP for Recycling Concrete.

Asbestos containing building material is not present in or on areas covered in the scope of this report (previously removed), with the exception of ACM in the tar impregnated roofing felt located on the roof of B371. This ACM will be removed from the rubble during demolition and disposed of as sanitary waste.

Specific waste volumes are generically itemized in Table 3 below:

Table 3

Waste Volume Estimates and Material Types, Phase III , Building 371						
Facility	Concrete (ft^3)[1]	Wood (ft^3)	Metal (ft^3)	Wall Board (ft^3)	ACM (ft^3)	Other Waste (ft^3)
371 Phase III	2,100	200	12,000	900	7,100	Re-bar - 500

(1) A majority of indicated concrete will be used as backfill in the basement of Building 371.

8 FACILITY CLASSIFICATION AND CONCLUSIONS

Based on the analysis of radiological, chemical and physical hazards, Building 371, Phase III areas are classified as an RFCA Type 3 facility pursuant to the RFETS Decommissioning Program Plan (DPP; K-H, 1999). Based upon the results of this PDSR, the Building 371 structure between column lines 1 - 12 and column lines T – Y meets the unrestricted release limits specified in the site Pre-Demolition Survey Plan and is ready for demolition. The PDS for Building 371, Phase III, was performed in accordance with the DDCP and PDSP, all PDSP DQOs were met, and all data satisfied the PDSP DQA criteria. All remaining metal and equipment have received radiological surveys in accordance with RSP 7.02, *Contamination Monitoring Requirements,* and may be disposed of as sanitary waste. All indicated surveys are maintained in the applicable survey packages.

A facility walkdown and historical review indicates that no RCRA/CERCLA constituents exist in the areas included in the scope of this PDSR (refer to Attachment G, *Historical Review*).

Radiological contamination in excess of the PDSP Table 7-1 limits was not detected in Building 371, Phase III areas. The applicable limits are indicated in Table 4 below as follows:

Table 4
PDSP Table 7-1 Surface Contamination Limits

Radionuclides	Total Average (dpm/100 cm^2) (1) ($DCGL_W$)	Total Maximum (dpm/100 cm^2) (2) ($DCGL_{EMC}$)	Removable (dpm/100 cm^2) ($DCGL_W$)
Transuranics	100	300	20

(1) Measurements of average contamination should not be averaged over an area of more than 1 m^2.
(2) The maximum contamination level applies to an area of not more than 100 cm^2.

Based upon this PDSR, Building 371, Phase III can be demolished and concrete can be used for backfill on-site per the RFCA RSOP for Recycling Concrete. No removable contamination in excess of the unrestricted release limits (20 dpm/100 cm^2) exists in these areas. No beryllium contamination has been detected above the investigation level in Building 371, Phase III areas.

To ensure that the facility remains free of contamination and that PDS data remain valid, Level 1 isolation controls have been established.

9 REFERENCES

Reconnaissance Level Characterization Report for the 371/374 Building Cluster, dated August 28, 2000, Revision 0.

DOE/RFFO, CDPHE, EPA, 1996. *Rocky Flats Cleanup Agreement (RFCA)*, July 19, 1996.

DOE Order 5400.5, *Radiation Protection of the Public and the Environment.*

DOE Order 414.1A, *Quality Assurance.*

EPA, 1994. *The Data Quality Objective Process,* EPA QA/G-4.

K-H, 1999. *Decommissioning Program Plan*, June 21, 1999.

MAN-131-QAPM, *Kaiser-Hill Team Quality Assurance Program*, Rev. 1, November 1, 2001.

MAN-076-FDPM, *Facility Disposition Program Manual*, Rev. 3, January 1, 2002.

MAN-077-DDCP, *Decontamination and Decommissioning Characterization Protocol*, Rev. 4, July 15, 2002.

MAN-127-PDSP, *Pre-Demolition Survey Plan for D&D Facilities*, Rev. 1, July 15, 2002.

MARSSIM - *Multi-Agency Radiation Survey and Site Investigation Manual* (NUREG-1575, EPA 402-R-97-016).

PRO-475-RSP-16.01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation, and Closure,* Rev. 1, May 22, 2001.

PRO-476-RSP-16.02, *Pre-Demolition (Final Status) Radiological Surveys of Surfaces and Structures*, Rev. 2, March 10, 2003.

PRO-477-RSP-16.03, *Radiological Samples of Building Media*, Rev. 1, May 22, 2001.

PRO-478-RSP-16.04, *Radiological Survey/Sample Data Analysis for Final Status Survey*, Rev. 1, May 22, 2001.

PRO-479-RSP-16.05, *Radiological Survey/Sample Quality Control for Final Status Survey*, Rev. 1, May 22, 2001.

PRO-563-ACPR, *Asbestos Characterization Procedure,* Revision 0, August 24, 1999.

PRO-536-BCPR, *Beryllium Characterization Procedure*, Revision 0, August 24, 1999.

RFETS, Environmental Waste Compliance Guidance #25, Management of Polychlorinated Biphenyls (PCBs) in Paint and Other Bulk Product Waste During Facility Disposition.

RFETS, Environmental Waste Compliance Guidance #27, Lead-Based Paint (LBP) and Lead-Based Paint Debris Disposal.

RFETS, RFCA RSOP for Recycling Concrete, September 28, 1999.

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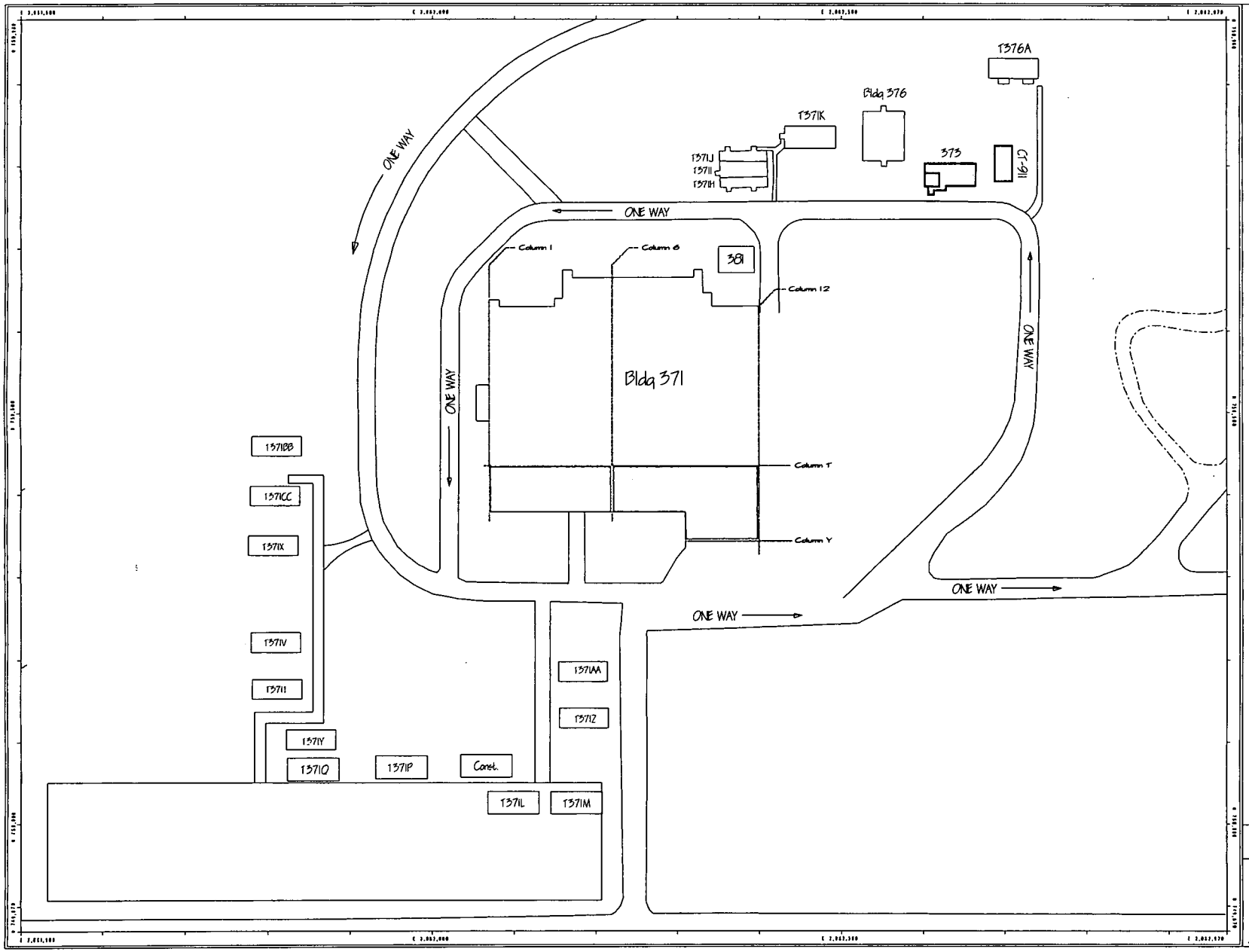
ATTACHMENT A

Survey Unit Overview Map



Rocky Flats Environmental Technology Site
Survey Unit
Overview for Building 371 - Phase III

EXPLANATION

Standard Map Features

- Buildings and other structures
- 371075 - Building 371 - Columns T1 - T6
- 371088 - Building 371 - Columns T6 - T12
- 371089 - Pump House & Cooling Tower
- Fences and other barriers
- Paved roads
- Dirt roads

N

Scale = 1:1430
1 Inch represents approximately 119 feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

FINAL

Prepared for:

KAISER-HILL COMPANY

J Jimenez x2269

March 28, 2005

ATTACHMENT B

Survey Unit 371075

Radiological Data Summary and Survey Map

Survey Area: N/A	Survey Unit: 371075	Building: 371

Description: Phase III Survey Area, Bldg. 371 (South Admin Areas) Rooms, 3119, 3117, 3033, 3007, 3014, 3121, 3436, 3015, STR 3, 3007, 3123, 3141C, 3141B, 3013, 3125, 3131, 3133, 3005, 3127, 3005, 3007A, and 3004

Rocky Flats Environmental Technology Site
Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 15 | Nbr Biased Measurements Required: 0 | Nbr QC Required: 2

Nbr Random Measurements Performed: 15 | Nbr Biased Measurements Performed: 0 | Nbr QC Performed: 2

Alpha

Maximum:	30.5 dpm/100cm²
Minimum:	-16.6 dpm/100cm²
Mean:	5.3 dpm/100cm²
Standard Deviation:	12.3
QC Maximum:	29.9 dpm/100cm²
QC Minimum:	7.4 dpm/100cm²
QC Mean:	18.7 dpm/100cm²
Transuranic DCGL$_W$:	100.0 dpm/100cm²
Transuranic DCGL$_{EMC}$:	300.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 15 | Nbr Biased Measurements Required: 0

Nbr Random Measurements Performed: 15 | Nbr Biased Measurements Performed: 0

Alpha

Maximum:	8.5 dpm/100cm²
Minimum:	-0.6 dpm/100cm²
Mean:	1.4 dpm/100cm²
Standard Deviation:	2.6
Transuranic DCGL$_W$:	20.0 dpm/100cm²

Media Sample Results

Nbr Random Required: 0 | Nbr Biased Required: 0

Nbr Random Collected: 0 | Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

Survey Area: N/A	Survey Unit: 371075	Building: 371

Description: Phase III Survey Area, Bldg. 371 (South Admin Areas) Rooms, 3119, 3117, 3033, 3007, 3014, 3121, 3436, 3015, STR 3, 3007, 3123, 3141C, 3141B, 3013, 3125, 3131, 3133, 3005, 3127, 3005, 3007A, and 3004

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	509284	03/28/05	Electra	775	DP-6	07/03/05	0.225	NA	48.0	NA	T
2	509552	03/28/05	SAC-4	1497	NA	06/09/05	0.330	NA	10.0	NA	R
4	702381	03/29/05	Electra	761	DP-6	05/01/05	0.219	NA	48.0	NA	T
5	702381	03/29/05	SAC-4	759	NA	07/19/05	0.330	NA	10.0	NA	R
6	712563	03/29/05	Electra	775	DP-6	07/03/05	0.222	NA	48.0	NA	Q
7	511366	03/29/05	Electra	1512	NA	07/24/05	0.330	NA	10.0	NA	R
8	511366	03/29/05	Electra	775	DP-6	07/03/05	0.222	NA	48.0	NA	T
9	513185	03/30/05	Electra	764	AP-6	08/23/05	0.182	NA	300.0	NA	S

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: N/A	Survey Unit: 371075	Building: 371

Description: Phase III Survey Area, Bldg. 371 (South Admin Areas) Rooms, 3119, 3117, 3033, 3007, 3014, 3121, 3436, 3015, STR 3, 3007, 3123, 3141C, 3141B, 3013, 3125, 3131, 3133, 3005, 3127, 3005, 3007A, and 3004

Comments Sheet

General Comments:

TSA Comments: N/A

RSA Comments: N/A

Media Comments: N/A

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Survey Area: N/A	Survey Unit: 371075	Building: 371

Description: Phase III Survey Area, Bldg. 371 (South Admin Areas) Rooms, 3119, 3117, 3033, 3007, 3014, 3121, 3436, 3015, STR 3, 3007, 3123, 3141C, 3141B, 3013, 3125, 3131, 3133, 3005, 3127, 3005, 3007A, and 3004

Random Removable Surface Activity Data Sheet

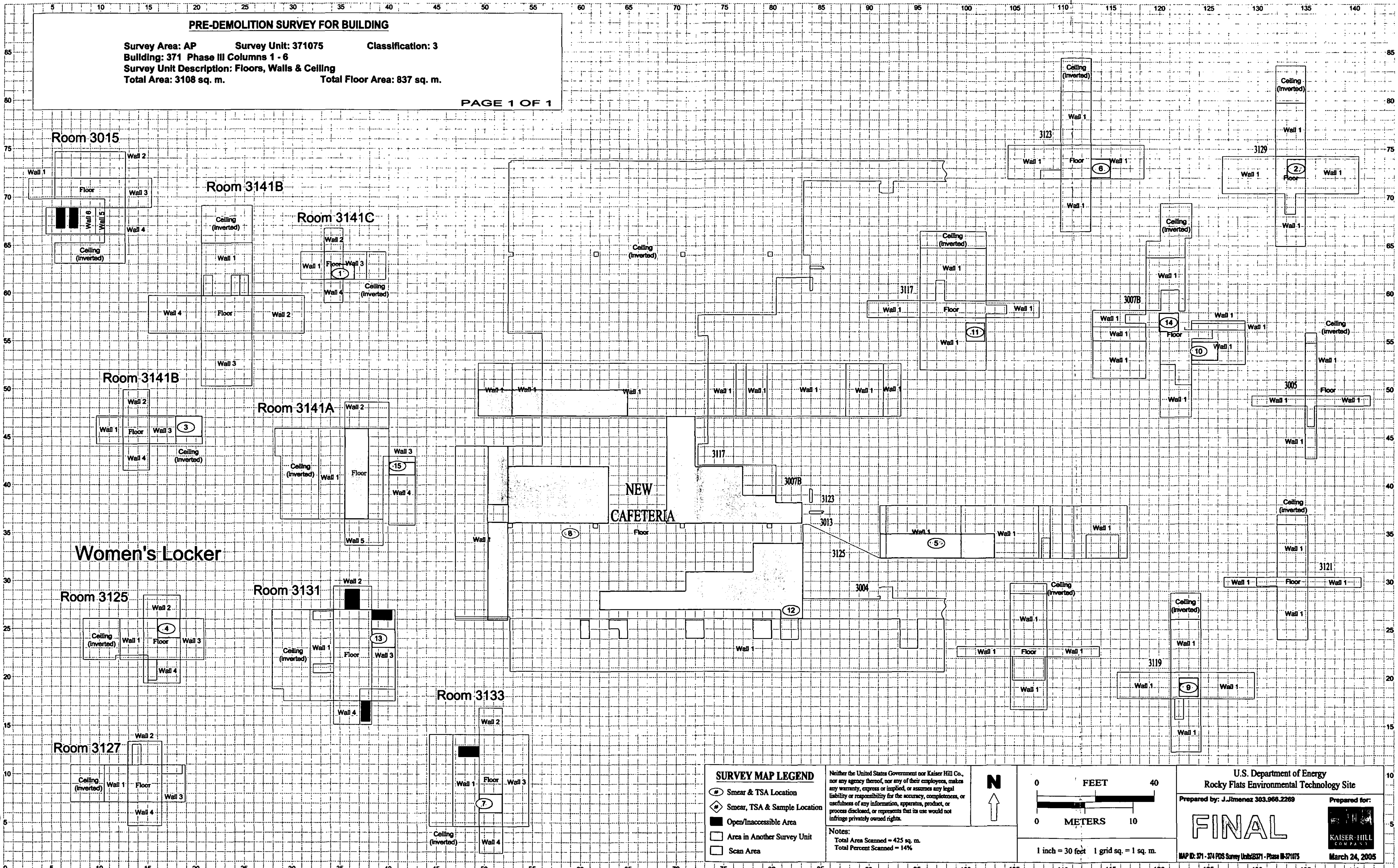
Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
371075PRP-N001	5	0.9	N/A	N/A
371075PRP-N002	5	0.9	N/A	N/A
371075PRP-N003	5	-0.6	N/A	N/A
371075PRP-N004	5	2.4	N/A	N/A
371075PRP-N005	7	5.8	N/A	N/A
371075PRP-N006	5	2.4	N/A	N/A
371075PRP-N007	5	0.9	N/A	N/A
371075PRP-N008	5	-0.6	N/A	N/A
371075PRP-N009	5	8.5	N/A	N/A
371075PRP-N010	5	-0.6	N/A	N/A
371075PRP-N011	5	0.9	N/A	N/A
371075PRP-N012	5	-0.6	N/A	N/A
371075PRP-N013	5	-0.6	N/A	N/A
371075PRP-N014	5	0.9	N/A	N/A
371075PRP-N015	7	-0.3	N/A	N/A

Survey Area: N/A	Survey Unit: 371075	Building: 371

Description: Phase III Survey Area, Bldg. 371 (South Admin Areas) Rooms, 3119, 3117, 3033, 3007, 3014, 3121, 3436, 3015, STR 3, 3007, 3123, 3141C, 3141B, 3013, 3125, 3131, 3133, 3005, 3127, 3005, 3007A, and 3004

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
371075PRP-N001	4	14.0	N/A	N/A
371075PRP-N002	4	1.7	N/A	N/A
371075PRP-N003	4	-7.4	N/A	N/A
371075PRP-N004	4	10.8	N/A	N/A
371075QRP-N005	6	29.9	N/A	N/A
371075PRP-N005	8	13.5	N/A	N/A
371075PRP-N006	4	20.0	N/A	N/A
371075PRP-N007	4	-10.6	N/A	N/A
371075PRP-N008	4	30.5	N/A	N/A
371075PRP-N009	4	3.1	N/A	N/A
371075PRP-N010	4	7.6	N/A	N/A
371075PRP-N011	4	-16.6	N/A	N/A
371075PRP-N012	4	-1.5	N/A	N/A
371075PRP-N013	4	14.0	N/A	N/A
371075PRP-N014	4	1.7	N/A	N/A
371075QRP-N015	6	7.4	N/A	N/A
371075PRP-N015	8	-1.8	N/A	N/A


PRE-DEMOLITION SURVEY FOR BUILDING
Survey Area: AP
Survey Unit: 371075
Classification: 3
Building: 371 Phase III Columns 1 - 6
Survey Unit Description: Floors, Walls & Ceiling
Total Area: 3108 sq. m.
Total Floor Area: 837 sq. m.
PAGE 1 OF 1
Room 3015
Room 3141B
Room 3141C
Room 3141B
Room 3141A
Women's Locker
Room 3125
Room 3131
Room 3127
Room 3133
NEW CAFETERIA
3123
3129
3117
3007B
3005
3013
3125
3004
3121
3119
Ceiling (inverted)
Floor
Wall 1
Wall 2
Wall 3
Wall 4
Wall 5
Wall 6
SURVEY MAP LEGEND
Smear & TSA Location
Smear, TSA & Sample Location
Open/Inaccessible Area
Area in Another Survey Unit
Scan Area
Neither the United States Government nor Kaiser Hill Co., nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.
Notes:
Total Area Scanned = 425 sq. m.
Total Percent Scanned = 14%
N
0 FEET 40
0 METERS 10
1 inch = 30 feet 1 grid sq. = 1 sq. m.
U.S. Department of Energy
Rocky Flats Environmental Technology Site
Prepared by: J.Jimenez 303.966.2269
Prepared for:
FINAL
KAISER-HILL COMPANY
MAP ID: 371 - 374 PDS Survey Units\B371 - Phase III-371075
March 24, 2005

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ATTACHMENT C

Survey Unit 371088

Radiological Data Summary and Survey Map

Survey Area: AP	Survey Unit: 371088	Building: 371

Description: Phase III Survey Area, Bldg. 371 (South Admin Areas) Rooms, 3137, 3135, 3139, 3143, 3006, 3002, 3145, 3147, 3141A, 3149, 3017, 3017A, 3151, 3155A, 3153, 3018, 3018, 3138, 3000, 3139, 3132, 3001, 3136

Rocky Flats Environmental Technology Site
Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 21 | Nbr Biased Measurements Required: 0 | Nbr QC Required: 2

Nbr Random Measurements Performed: 21 | Nbr Biased Measurements Performed: 0 | Nbr QC Performed: 2

Alpha

Maximum:	48.8 dpm/100cm²
Minimum:	-3.2 dpm/100cm²
Mean:	13.0 dpm/100cm²
Standard Deviation:	13.4
QC Maximum:	11.1 dpm/100cm²
QC Minimum:	11.1 dpm/100cm²
QC Mean:	11.1 dpm/100cm²
Transuranic DCGL$_W$:	100.0 dpm/100cm²
Transuranic DCGL$_{EMC}$:	300.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 21 | Nbr Biased Measurements Required: 0

Nbr Random Measurements Performed: 21 | Nbr Biased Measurements Performed: 0

Alpha

Maximum:	1.8 dpm/100cm²
Minimum:	-1.2 dpm/100cm²
Mean:	-0.3 dpm/100cm²
Standard Deviation:	1.2
Transuranic DCGL$_W$:	20.0 dpm/100cm²

Media Sample Results

Nbr Random Required: 0 | Nbr Biased Required: 0

Nbr Random Collected: 0 | Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

Survey Area: AP	Survey Unit: 371088	Building: 371

Description: Phase III Survey Area, Bldg. 371 (South Admin Areas) Rooms, 3137, 3135, 3139, 3143, 3006, 3002, 3145, 3147, 3141A, 3149, 3017, 3017A, 3151, 3155A, 3153, 3018, 3018, 3138, 3000, 3139, 3132, 3001, 3136

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	511798	03/28/05	Electra	764	AP-6	08/22/05	0.182	NA	300.0	NA	S
2	509212	03/28/05	Electra	768	AP-6	04/19/05	0.204	NA	300.0	NA	S
3	512999	03/29/05	Electra	764	AP-6	08/22/05	0.182	NA	300.0	NA	S
4	508194	03/29/05	Electra	768	AP-6	04/19/05	0.204	NA	300.0	NA	S
5	512999	03/30/05	SAC-4	1407	NA	06/08/05	0.330	NA	10.0	NA	R
6	512999	03/30/05	Electra	761	DP-6	05/01/05	0.219	NA	48.0	NA	T
7	511798	03/30/05	Electra	1278	DP-6	07/25/05	0.213	NA	48.0	NA	Q
8	512999	03/30/05	Electra	764	AP-6	08/22/05	0.182	NA	300.0	NA	S

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: AP	Survey Unit: 371088	Building: 371

Description: Phase III Survey Area, Bldg. 371 (South Admin Areas) Rooms, 3137, 3135, 3139, 3143, 3006, 3002, 3145, 3147, 3141A, 3149, 3017, 3017A, 3151, 3155A, 3153, 3018, 3018, 3138, 3000, 3139, 3132, 3001, 3136

Comments Sheet

General Comments: N/A

TSA Comments: N/A

RSA Comments: N/A

Media Comments: N/A

Survey Area: AP	Survey Unit: 371088	Building: 371

Description: Phase III Survey Area, Bldg. 371 (South Admin Areas) Rooms, 3137, 3135, 3139, 3143, 3006, 3002, 3145, 3147, 3141A, 3149, 3017, 3017A, 3151, 3155A, 3153, 3018, 3018, 3138, 3000, 3139, 3132, 3001, 3136

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
371088PRP-N001	5	-1.2	N/A	N/A
371088PRP-N002	5	-1.2	N/A	N/A
371088PRP-N003	5	-1.2	N/A	N/A
371088PRP-N004	5	-1.2	N/A	N/A
371088PRP-N005	5	-1.2	N/A	N/A
371088PRP-N006	5	-1.2	N/A	N/A
371088PRP-N007	5	0.3	N/A	N/A
371088PRP-N008	5	0.3	N/A	N/A
371088PRP-N009	5	1.8	N/A	N/A
371088PRP-N010	5	0.3	N/A	N/A
371088PRP-N011	5	0.3	N/A	N/A
371088PRP-N012	5	-1.2	N/A	N/A
371088PRP-N013	5	0.3	N/A	N/A
371088PRP-N014	5	-1.2	N/A	N/A
371088PRP-N015	5	-1.2	N/A	N/A
371088PRP-N016	5	1.8	N/A	N/A
371088PRP-N017	5	-1.2	N/A	N/A
371088PRP-N018	5	-1.2	N/A	N/A
371088PRP-N019	5	1.8	N/A	N/A
371088PRP-N020	5	-1.2	N/A	N/A
371088PRP-N021	5	1.8	N/A	N/A

Survey Area: AP	Survey Unit: 371088	Building: 371

Description: Phase III Survey Area, Bldg. 371 (South Admin Areas) Rooms, 3137, 3135, 3139, 3143, 3006, 3002, 3145, 3147, 3141A, 3149, 3017, 3017A, 3151, 3155A, 3153, 3018, 3018, 3138, 3000, 3139, 3132, 3001, 3136

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
371088PRP-N001	6	-3.2	N/A	N/A
371088PRP-N002	6	24.2	N/A	N/A
371088PRP-N003	6	-3.2	N/A	N/A
371088PRP-N004	6	-0.0	N/A	N/A
371088PRP-N005	6	18.2	N/A	N/A
371088PRP-N006	6	-3.2	N/A	N/A
371088PRP-N007	6	5.9	N/A	N/A
371088PRP-N008	6	-0.0	N/A	N/A
371088PRP-N009	6	18.2	N/A	N/A
371088PRP-N010	6	21.4	N/A	N/A
371088PRP-N011	6	15.0	N/A	N/A
371088QRP-N011	7	11.1	N/A	N/A
371088PRP-N012	6	5.9	N/A	N/A
371088PRP-N013	6	21.4	N/A	N/A
371088PRP-N014	6	5.9	N/A	N/A
371088PRP-N015	6	36.5	N/A	N/A
371088PRP-N016	6	48.8	N/A	N/A
371088PRP-N017	6	5.9	N/A	N/A
371088PRP-N018	6	12.3	N/A	N/A
371088PRP-N019	6	18.2	N/A	N/A
371088PRP-N020	6	18.2	N/A	N/A
371088QRP-N020	7	11.1	N/A	N/A
371088PRP-N021	6	5.9	N/A	N/A

PRE-DEMOLITION SURVEY FOR BUILDING 371

Survey Area: AP **Survey Unit: 371088** **Classification: 3**
Building: 371 Phase III Columns 6 - 12
Survey Unit Description: Floors, Walls & Ceiling
Total Area: 5325 sq. m. **Total Floor Area: 1338 sq. m.**

3006
3017A
3018
3001
3147
3002
3155
3137
3145
3155A
3153
OLD CAFETERIA

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit
- Scan Area

Notes:
Total Area Scanned = 458 sq. m.
Total Percent Scanned = 9%

N

0 FEET 30
0 METERS 10
1 inch = 24 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: J.Jimenez 303.966.2259

FINAL

Prepared for: KAISER-HILL COMPANY

MAP ID: 371 - 374 POS Survey Units\8371 - Phase II-371088-P1

March 24, 2005

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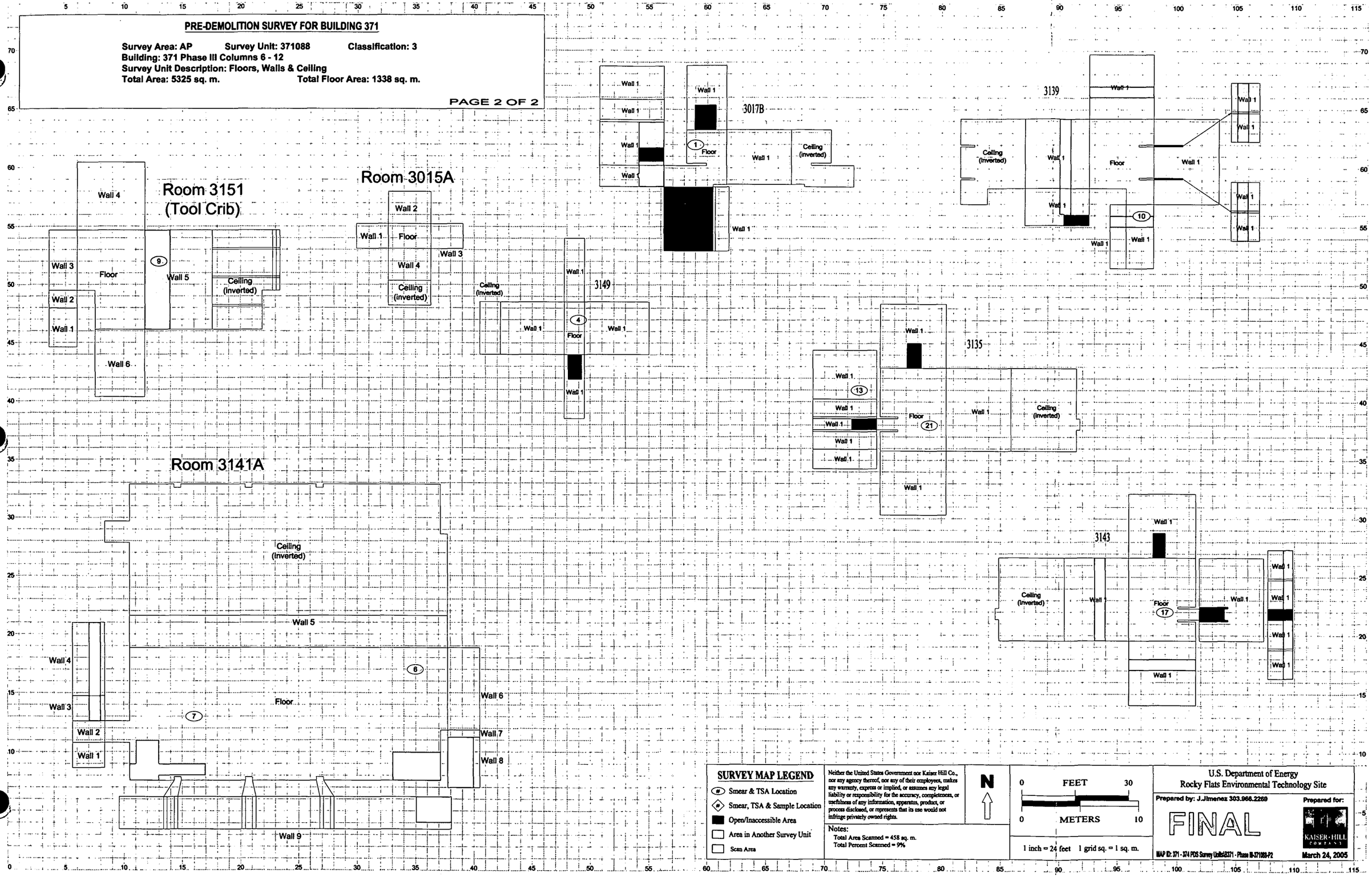
PRE-DEMOLITION SURVEY FOR BUILDING 371

Survey Area: AP **Survey Unit: 371088** **Classification: 3**
Building: 371 Phase III Columns 6 - 12
Survey Unit Description: Floors, Walls & Ceiling
Total Area: 5325 sq. m. **Total Floor Area: 1338 sq. m.**



SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit
- Scan Area

N

Notes:
Total Area Scanned = 458 sq. m.
Total Percent Scanned = 9%

0 FEET 30
0 METERS 10

1 inch = 24 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: J.Jimenez 303.966.2269

Prepared for:

FINAL

KAISER-HILL COMPANY

MAP ID: 371 - 374 PDS Survey Units\8371 - Phase III-371089-P2

March 24, 2005

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ATTACHMENT D

Survey Unit 371089

Radiological Data Summary and Survey Map

Survey Area: AQ	Survey Unit: 371089	Building: 371

Description: Bldg. 373 UST and Cooling Tower CT-911

Rocky Flats Environmental Technology Site
Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 15 | Nbr Biased Measurements Required: 0 | Nbr QC Required: 2

Nbr Random Measurements Performed: 15 | Nbr Biased Measurements Performed: 0 | Nbr QC Performed: 2

Alpha

Maximum:	47.1 dpm/100cm²
Minimum:	-6.9 dpm/100cm²
Mean:	12.9 dpm/100cm²
Standard Deviation:	12.2
QC Maximum:	24.7 dpm/100cm²
QC Minimum:	24.7 dpm/100cm²
QC Mean:	24.7 dpm/100cm²
Transuranic DCGLw:	100.0 dpm/100cm²
Transuranic DCGLemc:	300.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 15 | Nbr Biased Measurements Required: 0

Nbr Random Measurements Performed: 15 | Nbr Biased Measurements Performed: 0

Alpha

Maximum:	8.5 dpm/100cm²
Minimum:	-1.5 dpm/100cm²
Mean:	0.7 dpm/100cm²
Standard Deviation:	2.6
Transuranic DCGLw:	20.0 dpm/100cm²

Media Sample Results

Nbr Random Required: 0 | Nbr Biased Required: 0

Nbr Random Collected: 0 | Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

Survey Area: AQ	Survey Unit: 371089	Building: 371

Description: Bldg. 373 UST and Cooling Tower CT-911

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	508194	03/30/05	Electra	775	DP-6	07/03/05	0.222	NA	48.0	NA	T
2	509212	03/30/05	SAC-4	759	NA	07/19/05	0.330	NA	10.0	NA	R
3	509212	03/30/05	Electra	775	DP-6	07/03/05	0.222	NA	48.0	NA	T
4	509212	03/30/05	Electra	3112	DP-6	05/01/05	0.215	NA	48.0	NA	T
5	509212	03/30/05	Electra	765	AP-6	04/14/05	0.187	NA	300.0	NA	S
6	509552	03/31/05	Electra	775	DP-6	07/03/05	0.222	NA	48.0	NA	T
7	509284	03/31/05	SAC-4	850	NA	09/02/05	0.330	NA	10.0	NA	R

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: AQ	Survey Unit: 371089	Building: 371

Description: Bldg. 373 UST and Cooling Tower CT-911

Comments Sheet

General Comments:

TSA Comments: N/A

RSA Comments: N/A

Media Comments: N/A

Survey Area: AQ	Survey Unit: 371089	Building: 371

Description: Bldg. 373 UST and Cooling Tower CT-911

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
371089PRP-N001	2	-0.6	N/A	N/A
371089PRP-N002	2	2.4	N/A	N/A
371089PRP-N003	7	-1.5	N/A	N/A
371089PRP-N004	2	2.4	N/A	N/A
371089PRP-N005	7	1.5	N/A	N/A
371089PRP-N006	7	-1.5	N/A	N/A
371089PRP-N007	7	1.5	N/A	N/A
371089PRP-N008	7	-1.5	N/A	N/A
371089PRP-N009	7	1.5	N/A	N/A
371089PRP-N010	2	-0.6	N/A	N/A
371089PRP-N011	2	-0.6	N/A	N/A
371089PRP-N012	2	8.5	N/A	N/A
371089PRP-N013	2	-0.6	N/A	N/A
371089PRP-N014	7	1.5	N/A	N/A
371089PRP-N015	7	-1.5	N/A	N/A

Survey Area: AQ	Survey Unit: 371089	Building: 371

Description: Bldg. 373 UST and Cooling Tower CT-911

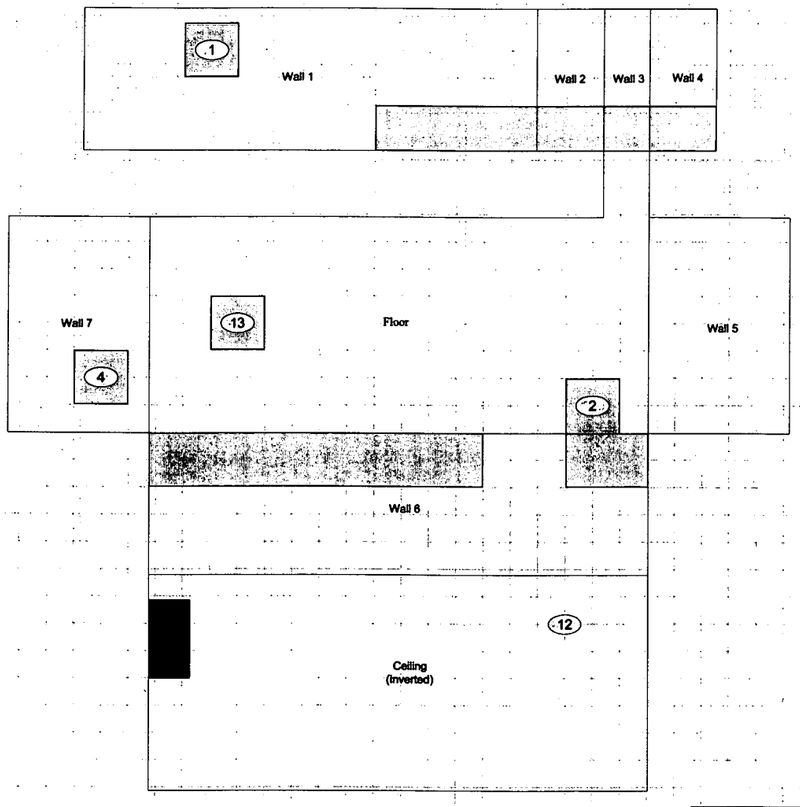
Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
371089PRP-N001	3	24.6	N/A	N/A
371089PRP-N002	1	8.4	N/A	N/A
371089QRP-N002	4	24.7	N/A	N/A
371089PRP-N003	6	0.7	N/A	N/A
371089PRP-N004	3	17.4	N/A	N/A
371089PRP-N005	6	3.9	N/A	N/A
371089PRP-N006	6	6.6	N/A	N/A
371089PRP-N007	6	11.1	N/A	N/A
371089PRP-N008	6	9.7	N/A	N/A
371089PRP-N009	6	12.9	N/A	N/A
371089PRP-N010	3	47.1	N/A	N/A
371089PRP-N011	3	-6.9	N/A	N/A
371089PRP-N012	3	15.6	N/A	N/A
371089PRP-N013	1	17.4	N/A	N/A
371089QRP-N013	4	24.7	N/A	N/A
371089PRP-N014	6	15.6	N/A	N/A
371089PRP-N015	6	9.7	N/A	N/A

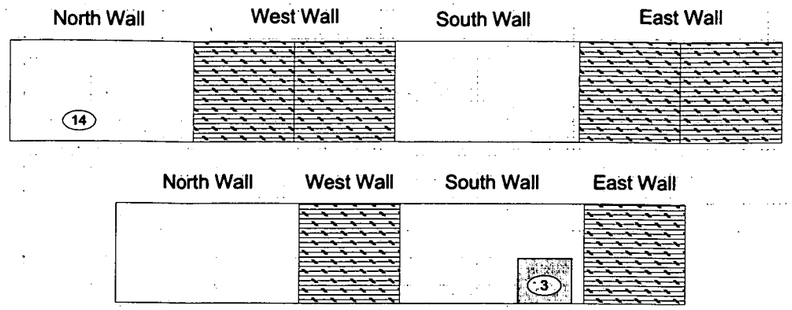
PRE-DEMOLITION SURVEY FOR BUILDING 371

Survey Area: Phase III **Survey Unit: 371089** **Classification: 3**
Building: Pump House & Cooling Tower
Survey Unit Description: Exterior & Interior
Total Area: 1286 sq. m. **Total Floor Area: 350 sq. m.**

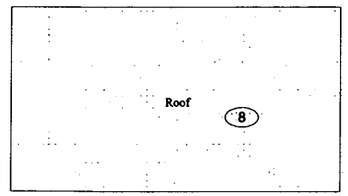
Interior of Pump House 373



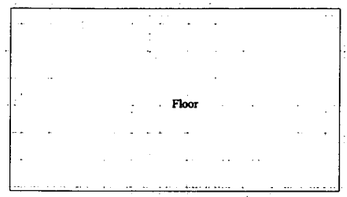
Exterior Cooling Tower



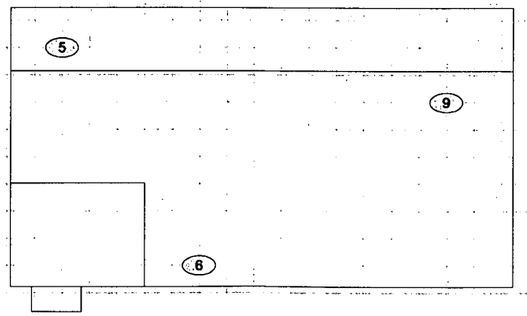
Exterior of Cooling Tower



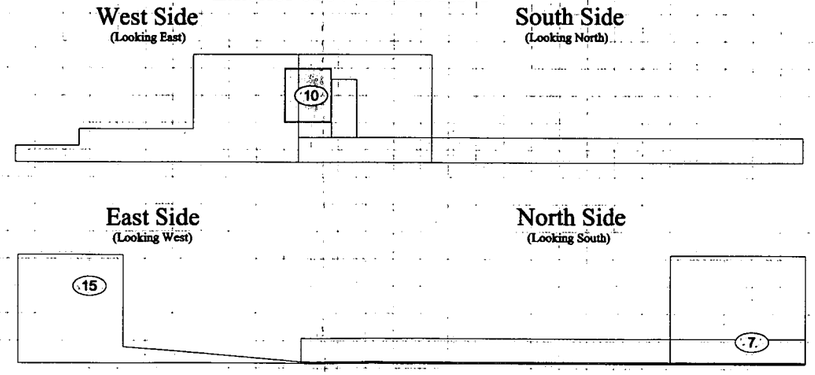
Interior of Cooling Tower



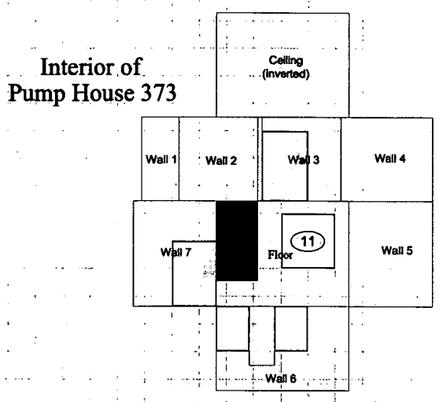
Exterior of 373 Pad & Roof



Exterior of 373 Pad & Roof



Interior of Pump House 373



SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit
- Scan Area

Notes:
Total Area Scanned = 90 sq. m.
Total Percent Scanned = 7%

N

0 FEET 25
0 METERS 8

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: J.Jimenez 303.966.2269

Prepared for:

FINAL

MAP ID: G:\371 - 374 PDS Survey Units\UE371 - Phase III\371089

March 29, 2005

ATTACHMENT E

Chemical Data Summaries and Sample Maps

12

IHISR_SAMPLE_[redacted]ULTS_REPORT

Date: 03/28/2005

Industrial Hygie[redacted]nformation System
Sample Results Report

SURFACE

BE FINAL SURVEY - PHASE III

Sample Number	Work Pkg	Room	Location	Type	Rin No	Analyte	Concentration
KH							
MCCAFFERTY, RUTH							
371-03232005-84-551		3141A	BE FINAL SURVEY- MENS SHOWER ROOM BY FLOOR DRAIN	WIPE	05Z1014	BERYLLIUM AND B	< 0.1000 _ UG/100CM2

Building Subtotal: 1

Hygienist Subtotal: 1

Company Subtotal: 1

Grand Total 1

DOES NOT CONTAIN
OFFICIAL USE ONLY INFORMATION
11 pages, pp. 41-51
Name/Org: J. A. NEESHEIM Date: 07-03-08
EMCBC CLASS'N OFFICE

~~OFFICIAL USE ONLY~~

~~Contains information which may be exempt from public release under the Freedom of Information Act (5 USC 552), exemption number(s) 2. Approval by the Department of Energy prior to public release is required.~~

IHISR_SAMPLE_RESULTS_REPORT
Date: 03/28/2005

Industrial Hygie Information System
Sample Results Report

SURFACE

BE FINAL SURVEY - PHASE III

Sample Number	Work Pkg	Room	Location	Type	Rin No	Analyte	Concentration
KH							
MCCAFFERTY, RUTH							
371-03232005-84-552		3008	BE FINAL SURVEY- AT WEST EXIT	WIPE	05Z1014	BERYLLIUM AND B	< 0.1000 _ UG/100CM2

Building Subtotal: 1
Hygienist Subtotal: 1
Company Subtotal: 1
Grand Total 1

43

IHISR_SAMPLE_RESULTS_REPORT

Date: 03/28/2005

Industrial Hygie[redacted]nformation System
Sample Results Report

SURFACE

BE FINAL SURVEY - PHASE III

Sample Number	Work Pkg	Room	Location	Type	Rin No	Analyte	Concentration
KH							
MCCAFFERTY, RUTH							
371-03232005-84-553		3133	BE FINAL SURVEY- WOMENS SHOWER RM, BY FLOOR DRAIN	WIPE	05Z1014	BERYLLIUM AND B	< 0.1000 _ UG/100CM2

Building Subtotal: 1

Hygienist Subtotal: 1

Company Subtotal: 1

Grand Total 1

IHISR_SAMPLE_RESULTS_REPORT
Date: 03/28/2005

Industrial Hygiene Information System
Sample Results Report

SURFACE

BE FINAL SURVEY - PHASE III

Sample Number	Work Pkg	Room	Location	Type	Rin No	Analyte	Concentration
KH							
MCCAFFERTY, RUTH							
371-03232005-84-554		3002	BE FINAL SURVEY- HALLWAY	WIPE	05Z1014	BERYLLIUM AND B	< 0.1000 _ UG/100CM2

Building Subtotal: 1
Hygienist Subtotal: 1
Company Subtotal: 1
Grand Total 1

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IHISR_SAMPLE_RESULTS_REPORT
Date: 03/28/2005

Industrial Hygie[redacted]nformation System
Sample Results Report

SURFACE

BE FINAL SURVEY - PHASE III

Sample Number	Work Pkg	Room	Location	Type	Rin No	Analyte	Concentration
KH							
MCCAFFERTY, RUTH							
371-03232005-84-555		3138	BE FINAL SURVEY- CURRENT MTCE SHOP	WIPE	05Z1014	BERYLLIUM AND B	< 0.1000 _ UG/100CM2

Building Subtotal: 1
Hygienist Subtotal: 1
Company Subtotal: 1
Grand Total 1

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~~Contains information which may be exempt from public release under the Freedom of Information Act (5 USC 552), exemption number(s) 2. Approval by the Department of Energy prior to public release is required.~~

4b

IHISR_SAMPLE_RESULTS_REPORT
Date: 03/28/2005

Industrial Hygie[redacted]nformation System
Sample Results Report

SURFACE

BE FINAL SURVEY - PHASE III

Sample Number	Work Pkg	Room	Location	Type	Rin No	Analyte	Concentration
KH							
MCCAFFERTY, RUTH							
371-03232005-84-556		3017B	BE FINAL SURVEY- AT AIRLOCK ENTRY TO CA	WIPE	05Z1014	BERYLLIUM AND B	< 0.1000 _ UG/100CM2

Building Subtotal: 1
Hygienist Subtotal: 1
Company Subtotal: 1
Grand Total 1

IHISR_SAMPLE_RESULTS_REPORT
Date: 03/28/2005

Industrial Hygiene Information System
Sample Results Report

SURFACE

BE FINAL SURVEY - PHASE III

Sample Number	Work Pkg	Room	Location	Type	Rin No	Analyte	Concentration
KH							
MCCAFFERTY, RUTH							
371-03232005-84-557		3018	BE FINAL SURVEY- HALLWAY	WIPE	05Z1014	BERYLLIUM AND B	< 0.1000 _ UG/100CM2

Building Subtotal: 1
Hygienist Subtotal: 1
Company Subtotal: 1
Grand Total 1

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IHISR_SAMPLE_RESULTS_REPORT
Date: 03/28/2005

Industrial Hygie[redacted]nformation System
Sample Results Report

SURFACE

BE FINAL SURVEY - PHASE III

Sample Number	Work Pkg	Room	Location	Type	Rin No	Analyte	Concentration
KH							
MCCAFFERTY, RUTH							
373-03232005-84-558		INSIDE	BE FINAL SURVEY- B373 UPPER LEVEL NEAR NORTH WALL	WIPE	05Z1014	BERYLLIUM AND B	< 0.1000 _ UG/100CM2

Building Subtotal: 1
Hygienist Subtotal: 1
Company Subtotal: 1
Grand Total 1

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~~May contain information which may be exempt from public release under the Freedom of Information Act (5 USC 552), exemption number(s) 2. Approval by the Department of Energy prior to public release is required.~~

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IHISR_SAMPLE_RESULTS_REPORT
Date: 03/28/2005

Industrial Hygiene Information System
Sample Results Report

SURFACE

BE FINAL SURVEY - PHASE III

Sample Number	Work Pkg	Room	Location	Type	Rin No	Analyte	Concentration
KH							
MCCAFFERTY, RUTH							
371COOLINGTOWER-03232005-84-559		OUTSIDE	BE FINAL SURVEY- COOLING TOWER,WEST END ANGLE IRON	WIPE	05Z1014	BERYLLIUM AND B	

Industrial Hygiene Information System
Sample Results Report

SURFACE

BE FINAL SURVEY - PHASE III

Sample Number	Work Pkg	Room	Location	Type	Rin No	Analyte	Concentration

KH

MCCAFFERTY, RUTH

< 0.1000 _ UG/100CM2

Building Subtotal: 1
Hygienist Subtotal: 1
Company Subtotal: 1
Grand Total 1

5

IHISR_SAMPLE_RESULTS_REPORT
Date: 03/28/2005

Industrial Hygiene Information System
Sample Results Report

SURFACE

BE FINAL SURVEY - PHASE III

Sample Number	Work Pkg	Room	Location	Type	Rin No	Analyte	Concentration
KH							
MCCAFFERTY, RUTH							
371-03232005-84-560		3007	BE FINAL SURVEY- AT ENTRANCE TO WEST AIRLOCK	WIPE	05Z1014	BERYLLIUM AND B	< 0.1000 _ UG/100CM2

Building Subtotal: 1
Hygienist Subtotal: 1
Company Subtotal: 1
Grand Total 1

CHEMICAL SAMPLE MAP

Building: 371 West Side

Room 3015
Wall 1
Wall 2
Floor
Wall 3
Wall 6
Wall 5
Wall 4
Ceiling (inverted)

Room 3141B
Ceiling (inverted)
Wall 1
Wall 1
Floor
Wall 1

Room 3141C
Wall 2
Wall 1
Floor
Wall 3
Wall 4
Ceiling (inverted)

Room 3141B
Wall 2
Wall 1
Floor
Wall 3
Wall 4
Ceiling (inverted)

Room 3141A
Wall 2
Ceiling (inverted)
Wall 1
Floor
Wall 3
Wall 4
Wall 5

Women's Locker

Room 3125
Wall 2
Ceiling (inverted)
Wall 1
Floor
Wall 3
Wall 4

Room 3131
Wall 2
Ceiling (inverted)
Wall 1
Floor
Wall 3
Wall 4

Room 3127
Wall 2
Ceiling (inverted)
Wall 1
Floor
Wall 3
Wall 4

Room 3133
Wall 2
Wall 1
Floor
Wall 3
Ceiling (inverted)
Wall 4

NEW CAFETERIA
Floor
Wall 1

Ceiling (inverted)
Wall 1
3123
Wall 1
Floor
Wall 1
Wall 1

3129
Wall 1
Floor
Wall 1
Wall 1

Ceiling (inverted)
Wall 1
Wall 1

Ceiling (inverted)
Wall 1
3117
Wall 1
Floor
Wall 1
Wall 1

3007B
Wall 1
Wall 1
Wall 1
Floor
Wall 1
Wall 1

Ceiling (inverted)
Wall 1
3005
Floor
Wall 1
Wall 1
Wall 1

3117
3007B
3123
3013
3125
Wall 1
Wall 1
Wall 1
Wall 1

3004
Ceiling (inverted)
Wall 1
Wall 1
Floor
Wall 1
Wall 1

Ceiling (inverted)
Wall 1
Wall 1
3119
Wall 1
Floor
Wall 1
Wall 1

Ceiling (inverted)
Wall 1
3121
Wall 1
Floor
Wall 1
Wall 1

SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 40

0 METERS 10

1 inch = 30 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: J.Jimenez 303.966.2269

Prepared for:

FINAL

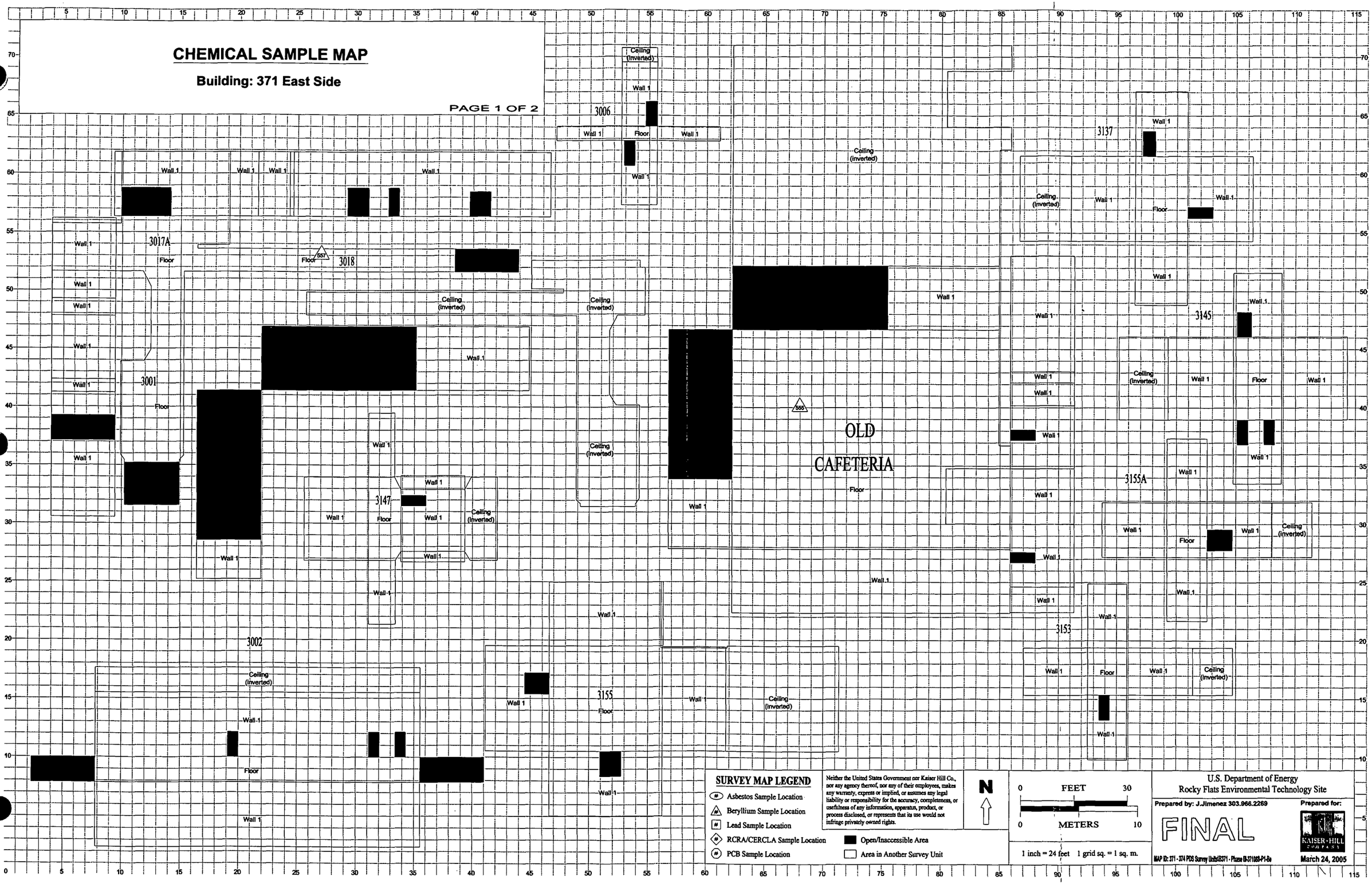
KAISER-HILL COMPANY

MAP ID: 371 - 374 PDS Survey Units3371 - Phase IM-371075-Be

March 24, 2005

CHEMICAL SAMPLE MAP

Building: 371 East Side



U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: J.Jimenez 303.966.2269

Prepared for:

FINAL

KAISER-HILL COMPANY

MAP ID: 371 - 374 PDS Survey Units\83711 - Phase II-371083-P1-0a

March 24, 2005

CHEMICAL SAMPLE MAP

Building: 371 East Side

Room 3151
(Tool Crib)

Wall 4
Wall 3
Floor
Wall 5
Ceiling
(inverted)
Wall 2
Wall 1
Wall 6

Room 3015A

Wall 2
Wall 1
Floor
Wall 3
Wall 4
Ceiling
(inverted)

Ceiling
(inverted)

Wall 1
3149
Wall 1
Wall 1
Floor
Wall 1

Wall 1
Wall 1
3017B
Wall 1
558
Floor
Wall 1
Ceiling
(inverted)
Wall 1

Wall 1
3139
Wall 1
Wall 1
Ceiling
(inverted)
Wall 1
Floor
Wall 1
Wall 1
Wall 1
Wall 1
Wall 1
Wall-1

Wall 1
Wall 1
3135
Wall 1
Wall 1
Wall 1
Floor
Wall 1
Ceiling
(inverted)
Wall 1
Wall 1

Room 3141A

Ceiling
(inverted)
Wall 5
Wall 4
Wall 3
Floor
Wall 6
Wall 2
551
Wall 7
Wall 1
Wall 8
Wall 9

Wall 1
3143
Ceiling
(inverted)
Wall 1
Floor
Wall 1
Wall 1
Wall 1
Wall 1
Wall 1

SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 30

0 METERS 10

1 inch = 24 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: J.Jimenez 303.966.2269

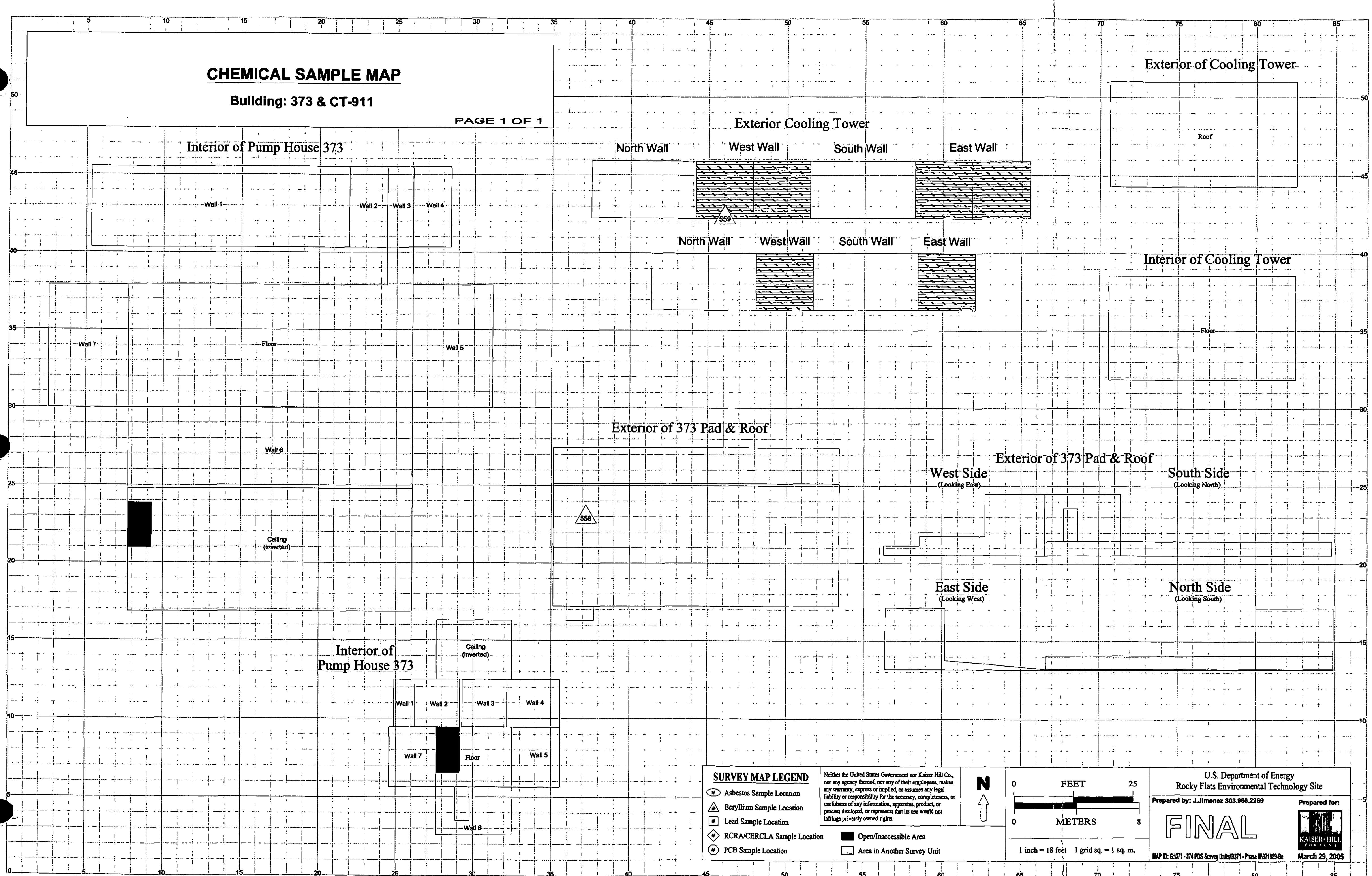
Prepared for:

FINAL

KAISER-HILL COMPANY

MAP ID: 371 - 374 PDS Survey Units83Z1 - Phase III-371098-P2-8e

March 24, 2005


CHEMICAL SAMPLE MAP
Building: 373 & CT-911
PAGE 1 OF 1
Interior of Pump House 373
Wall 1
Wall 2
Wall 3
Wall 4
Wall 5
Wall 6
Wall 7
Floor
Ceiling (inverted)
Exterior Cooling Tower
North Wall
West Wall
South Wall
East Wall
559
Exterior of Cooling Tower
Roof
Interior of Cooling Tower
Floor
Exterior of 373 Pad & Roof
558
West Side (Looking East)
South Side (Looking North)
East Side (Looking West)
North Side (Looking South)
Interior of Pump House 373
Wall 1
Wall 2
Wall 3
Wall 4
Wall 5
Wall 6
Wall 7
Floor
Ceiling (inverted)
SURVEY MAP LEGEND
Asbestos Sample Location
Beryllium Sample Location
Lead Sample Location
RCRA/CERCLA Sample Location
PCB Sample Location
Open/Inaccessible Area
Area in Another Survey Unit
Neither the United States Government nor Kaiser Hill Co., nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.
N
0 FEET 25
0 METERS 8
1 inch = 18 feet 1 grid sq. = 1 sq. m.
U.S. Department of Energy
Rocky Flats Environmental Technology Site
Prepared by: J.Jimenez 303.966.2269
Prepared for:
FINAL
KAISER-HILL COMPANY
MAP ID: G:\371 - 374 PDS Survey Units\B371 - Phase III\371089-Be
March 29, 2005

ATTACHMENT F

Data Quality Assessment

DATA QUALITY ASSESSMENT (DQA)

VERIFICATION & VALIDATION OF RESULTS

V&V of the data confirm that appropriate quality controls are implemented throughout the sampling and analysis process, and that any substandard controls result in qualification or rejection of the data in question. The required quality controls and their implementation are summarized in a tabular, checklist format for each category of data – radiological surveys and chemical analyses (specifically beryllium).

DQA criteria and results are provided in a tabular format for each suite of surveys or chemical analyses performed; the radiological survey assessment is provided in Table E-1, and beryllium in E-2. A data completeness summary for all results is given in Table E-3.

All relevant quality records supporting this report are maintained in the B371 Characterization Project Files. The regulators will submit this report to the CERCLA Administrative Record for permanent storage within 30 days of approval. All radiological data are organized into survey packages, which correlate to unique survey units. Chemical data are organized by RIN (Report Identification Number) and are traceable to the sample number and corresponding sample location.

Survey designs were implemented based on the transuranic limits used as DCGLs in the unrestricted release decision process. All survey results were evaluated against, and were less than the transuranic $DCGL_w$ (100 dpm/100cm^2).

SUMMARY

In summary, the data presented in this report have been verified and validated relative to the quality requirements and project decisions as stated in the original DQOs. All data are useable based on qualifications stated herein and are considered satisfactory without qualification.

Based upon an independent review of the radiological data, it is determined that the original project DQOs satisfied site PDSP guidance. All facility contamination levels were below applicable unrestricted release levels, except as noted above. Minimum survey requirements were met, sampling/survey protocol was performed in accordance with applicable procedures, survey units were properly designed and bounded, and instrument performance and calibration were within acceptable limits.

Isolation Controls have been implemented to prevent the inadvertent introduction of further contamination into the facility. On this basis, the following B371 areas meet the RLCP and PDSP DQO criteria with the confidences stated herein:

1. Building 371, Phase III, Area AP, Column Lines 1 – 12 & Column Lines T – Y
2. Building 373
3. Cooling Tower 911

Table E-1 V&V of Radiological Surveys – B371 Phase III, South Administrative Area Interior and B373 Pump House

V&V CRITERIA, RADIOLGICAL SURVEYS		K-H RSP 16.00 Series MARSSIM (NUREG-1575)		
QUALITY REQUIREMENTS				
Parameters		Measure	Frequency	COMMENTS
ACCURACY	initial calibrations	80%<x<120 %	≥1	Calibration using Alpha Group procedure and approved technicians.
	daily source checks	80%<x<120 %	≥1/day	Performed daily/within range.
	local area background: Field	typically < 10 dpm	≥1/day	All local area backgrounds were within expected Ranges <10 cpm
PRECISION	field duplicate measurements for TSA	≥5% of real survey points	≥100% packages	N/A
REPRESENTATIVENESS	MARSSIM methodology: Survey Units 371075, 371088, 371089	statistical	NA	Systematic and random w/ statistical confidence.
	Survey Maps	NA	NA	Random measurement locations controlled/mapped to ±1m.
	Controlling Documents (Characterization Pkg; RSPs)	qualitative	NA	Refer to the Characterization Package (planning document) for field/sampling procedures (located in Project files); thorough documentation of the planning, sampling/analysis process, and data reduction into formats.
COMPARABILITY	units of measure	dpm/100cm^2	NA	Use of standardized engineering units in the reporting of measurement results.
COMPLETENESS	Plan vs. Actual surveys usable results vs. unusable	>95% >95%	NA	
SENSITIVITY	detection limits	TSA: ≤50 dpm/100cm^2 RA: ≤10 dpm/100cm^2	all measures	MDAs ≤ ½ $DCGL_w$ per MARSSIM guidelines.

Table E-2 V&V of Beryllium Results – B371 Phase III, South Administrative Area Interior and B373 Pump House

V&V CRITERIA, CHEMICAL ANALYSES		DATA PACKAGE		
BERYLLIUM	Prep: NMAM 7300 METHOD: OSHA ID-125G	LAB ---->	Johns Manville Corp. Denver, Co.	
QUALITY REQUIREMENTS		RIN ---->	RIN 05Z1014 Sample #s 371-03232005-84-551 through 560.	
		Measure	Frequency	COMMENTS
ACCURACY	Calibrations Initial	linear calibration	≥1	No qualifications significant enough to change project decisions, i.e., classification of Type 3 facilities confirmed. All results were below associated action levels.
	Continuing	80%<%R<120%	≥1	
	LCS/MS	80%<%R<120%	≥1	
	Blanks - lab & field	<MDL	≥1	
	interference check std (ICP)	NA	NA	
PRECISION	Laboratory Control Sample Duplicate	80%<%R<120% (RPD<20%)	≥1	
	field duplicate	all results < RL	≥1	
REPRESENTATIVENESS	COC	Qualitative	NA	
	hold times/preservation	Qualitative	NA	
	Controlling Documents (Plans, Procedures, maps, etc.)	Qualitative	NA	
COMPARABILITY	measurement units	ug/100cm^2	NA	
COMPLETENESS	Plan vs. Actual samples usable results vs. unusable	>95% >95%	NA	
SENSITIVITY	detection limits	MDL of 0.10ug/100cm^2	all measures	

Table E-3 Data Completeness Summary – B371 Phase III, South Administrative Area Interior and B373 Pump House

ANALYTE	Area/Unit/ Set/Room	Sample Number Planned (Real & QC)[A]	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Beryllium	Unit 371075 B371 Admin Area West Side (Interior)	5 biased smears	5 biased smears	No beryllium contamination found at any location, all results below the regulatory limit	OSHA ID-125G RIN 05Z1014 Sample numbers 371-03232005-84-551 through 554, 560 No results above action level (0.2ug/100cm^2) or investigative level (0.1ug/100cm^2)
Beryllium	Unit 371088 B371 Admin Area East Side (Interior)	3 biased smears	3 biased smears	No beryllium contamination found at any location, all results below the regulatory limit	OSHA ID-125G RIN 05Z1014 Sample numbers 371-03232005-84-555 through 557 No results above action level (0.2ug/100cm^2) or investigative level (0.1ug/100cm^2)
Beryllium	Unit 371089 B373 Pump House	2 biased smears	2 biased smears	No beryllium contamination found at any location, all results below the regulatory limit	OSHA ID-125G RIN 05Z1014 Sample numbers 371-03232005-84-558 through 559 No results above action level (0.2ug/100cm^2) or investigative level (0.1ug/100cm^2)

Building 371, Phase III Area (Interior) and Building 373
Historical Review, Rev. 0
March 30, 2005

Facility ID: Building 371, Phase III (Interior) South Administrative Area and Building 373 Pump House

Anticipated Facility Type (1, 2, or 3):

The Building 371 South Administrative Area and Building 373 Pump House contained office and administration rooms, mechanical rooms, cafeteria, men and women locker rooms, main building entrance foyer, water pumps and storage. Historically, these areas were never posted as a radiological area. Therefore, a Facility Type 3 category assignment is required based on proximity to Building 371 radiological process areas.

Building 371 South Administrative Area (Interior) Physical Description:

This Building 371 Phase III area is located on the south side of the process area. It is a single ground floor level for the purpose of personnel support activities. This portion of the building backs up to the ground floor process area (Phase IV line) and runs from the southwest exterior corner to east at Column 12. The exterior structure is reinforced concrete which houses the main building entrance, various administrative offices, maintenance shops, utilities, personnel support facilities such as the cafeteria, locker rooms, restrooms, showers, conference rooms, lounges and a stock room. Zone IV, or HVAC Systems 5, provided ventilation for this area.

Building 373 Pump House Physical Description:

The Building 373 Pump House is located north of Building 371/374 structure between B376 and the cooling towers. It is a ground floor and basement concrete structure. The basement level contained two pumps necessary for transferring water to and from the cooling towers. At one time, there was a diesel and electric pump. The diesel was replaced later by a second electric pump.

Historical Operations:

Historically, no Phase III area was posted as a Radiological Area. In addition, there is no history of spills in any of the areas associated wit Phase III (including locker rooms and cafeteria). Operations were strictly for personnel support. Some of the more key identified spaces were:

Conference Room – Room 3107A
Women's Lounge – Room 3125
Women's Locker Room – Room 3131
Men's Locker Room – Room 3141A
Men's shower – Room 3137
Men's restroom – Room 3139
Men's shower – Room 3143
Stock Room – Room 3151
Cafeteria – Room 3138

All other identified spaces were used as personnel offices and administrative support.

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Building 371, Phase III Area (Interior) and Building 373
Historical Review, Rev. 0
March 30, 2005

Current Operational Status:

Phase III areas are no longer operational. All major process equipment and associated piping have been removed during the recent D&D phase. The following systems and/or equipment will remain in place during building demolition:

- Building HVAC systems.
- Miscellaneous non-process water
- Miscellaneous utility equipment,
- Miscellaneous electrical conduit
- Various steel support brackets
- Fire suppression system to include associated riser stations
- Various electrical panels and wiring

Contaminants of Concern

Asbestos

Asbestos containing building material is not present in or on areas covered in the scope of this report (previously removed).

Beryllium (Be)

Areas covered in the scope of this report are not and have never been a beryllium-controlled area. None of these areas were included on the RFETS Historical Beryllium List. Per the Beryllium Sampling Decision Tree in the PDSP, the number of different locations and the square footage of the areas, 10 Be swipes were collected on floor and elevated horizontal surfaces. Samples were collected in accordance with the PDSP and the *Beryllium Characterization Procedure,* PRO-536-BCPR, Revision 0, September 9, 1999. All beryllium smear sample results were less than the investigative limit of 0.1 $\mu g/100cm^2$.

Lead

Limited analyses for Pb in paint on walls, tanks, and other surfaces were performed in Phase III areas using a Niton portable X-ray flourescence unit. These results show low levels of lead in paint in these buildings. No further characterization for lead or other metals in paint was conducted. Environmental Waste Compliance Guidance #27, *Lead-based paint (LBP) and Lead-based Paint Debris Disposal,* states that LBP debris generated outside of currently identified high contamination areas shall be managed as non-hazardous (solid) wastes and need not be characterized unless the potentially lead-containing component is to be scabbled or otherwise comprise a separate waste stream. Hence, the data re presented is primarily used for Occupational Safety and Industrial Hygiene use in planning PPE and respiratory protection for scabbling operations.

A visual inspection of the Building 374 interior by Environmental Compliance personnel verified the absence of hazardous waste residuals and/or stains on the floor/concrete slab, walls, or ceiling.

Building 371, Phase III Area (Interior) and Building 373
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RCRA/CERCLA Constituents

Based upon the *Reconnaissance Level Characterization Report for the 371/374 Building Cluster*, dated August 28, 2000, Revision 0, personnel interviews, facility walk-downs, and historical process knowledge (WSRIC/WEMS), no rooms in Phase III of Building 371 previously managed hazardous wastes. The concrete generated from the demolition of the areas included in the scope of this report can be used for onsite recycling in accordance with the Concrete Recycling RSOP.

PCBs

Free-flowing or exposed PCBs have never been used or transferred in Building 374 interior. No records of PCB sampling within Cluster facilities were readily available. If any PCB oils had been released from a transformer or other piece of equipment in the past, such oils would have been cleaned up pursuant to standards applicable to those times, probably without any documentation. All older transformers were reportedly tested for PCB-containing oils. Any PCB-containing oils were flushed and replaced with non-PCB oils. PCB ballasts in fluorescent light fixtures were present throughout the area, and have been removed and disposed of.

Radiological Contaminants

The contaminants of concern for the 371 project are transuranic alpha-emitting radioisotopes (including Pu-238, Pu-239/240, Pu-242, Am-241, and Uranium). Based on findings documented in Radiological Engineering TBD-00157, Rev. 1, alpha-only surveys assure that the unrestricted-release limits for any other isotopes that may exist in Building 371 will not be exceeded.

Environmental Restoration Concerns

UBC sampling performed inside the B371 footprint has been performed. Based on the preliminary results, no remedial action is anticipated.

References

(1) Reconnaissance Level Characterization Report for the 371/374 Building Cluster, dated August 28, 2000, Revision 0.
(2) Building 371/374 Complex BIO, dated June 12, 2000, Revision 4.
(3) Building 371/374 System Evaluation Report 1, dated October 29, 2002, Revision 5.
(4) 371Closure Project Management Plan, dated July 31, 2001, Revision 0.

Further Actions

Complete the PDS process.

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